Catalogue no. 11F0027M — No. 088
ISSN 1703-0404
ISBN 978-1-100-22997-3

Research Paper

Economic Analysis (EA) Research Paper Series

The Distribution of Gross Domestic Product and Hours Worked in Canada and the United States Across Firm Size Classes

by Danny Leung and Luke Rispoli

Economic Analysis Division

Statistics Canada Statistique Canada

Canada

How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website, www.statcan.gc.ca.

You can also contact us by

email at infostats@statcan.gc.ca,

telephone, from Monday to Friday, 8:30 a.m. to 4:30 p.m., at the following toll-free numbers:

- Statistical Information Service 1-800-263-1136
- National telecommunications device for the hearing impaired 1-800-363-7629
- Fax line 1-877-287-4369

Depository Services Program

- Inquiries line 1-800-635-7943
- Fax line 1-800-565-7757

To access this product

This product, Catalogue no. 11F0027M, is available free in electronic format. To obtain a single issue, visit our website, www.statcan.gc.ca, and browse by "Key resource" > "Publications."

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, Statistics Canada has developed standards of service that its employees observe. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1-800-263-1136. The service standards are also published on www.statcan.gc.ca under "About us" > "The agency" > "Providing services to Canadians."

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2014

All rights reserved. Use of this publication is governed by the Statistics Canada Open Licence Agreement (http://www.statcan.gc.ca/reference/copyright-droit-auteur-eng.htm).

Cette publication est aussi disponible en français.

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued co-operation and goodwill.

Standard symbols

The following symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0^s	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p}	preliminary
^{r}	revised
x	suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E}	use with caution
F	too unreliable to be published
*	significantly different from reference category ($p < 0.05$)

The Distribution of Gross Domestic Product and Hours Worked in Canada and the United States Across Firm Size Classes

by

Danny Leung and Luke Rispoli, Economic Analysis Division, Statistics Canada

11F0027M No. 088

ISSN 1703-0404
ISBN 978-1-100-22997-3

January 2014

Economic Analysis Research Paper Series

The Economic Analysis Research Paper Series provides for the circulation of research conducted by the staff of Analytical Studies, Methodology and Statistical Infrastructure, visiting fellows, and academic associates. The Economic Analysis Research Paper Series is meant to stimulate discussion on a range of topics, including the impact of the New Economy, productivity issues, firm profitability, technology usage, the effect of financing on firm growth, depreciation functions, the use of satellite accounts, savings rates, leasing, firm dynamics, hedonic estimations, diversification patterns, investment patterns, differences in the performance of small and large firms and of domestic and multinational firms, and purchasing power parity estimates. Readers of the series are encouraged to contact the authors with their comments and suggestions.

The primary distribution medium for the papers is the Internet. These papers can be accessed for free at www.statcan.gc.ca.

All papers in the Economic Analysis Research Paper Series go through institutional and peer review, in order to ensure that they conform to Statistics Canada's mandate as a government statistical agency and adhere to generally accepted standards of good professional practice.

The papers in the series often include results derived from multivariate analysis or other statistical techniques. It should be recognized that the results of these analyses are subject to uncertainty in the reported estimates.

The level of uncertainty will depend on several factors: the nature of the functional form used in the multivariate analysis; the type of econometric technique employed; the appropriateness of the statistical assumptions embedded in the model or technique; the comprehensiveness of the variables included in the analysis; and the accuracy of the data that are utilized. The peer group review process is meant to ensure that the papers in the series have followed accepted standards, in order to minimize problems in each of these areas.

Publications Review Committee
Analytical Studies Branch, Statistics Canada
18th Floor, R.H. Coats Building
Ottawa, Ontario K1A 0T6

Acknowledgements

The authors thank John Baldwin, Wulong Gu, and Jianmin Tang and Jean-Pierre Maynard for helpful discussions about the data and methodology.

Table of contents

Abstract **5**

Executive summary **6**

1 Introduction **7**

2 Methodology **8**

2.1 Coverage 8

2.2 Measurement of gross domestic product 8

2.2.1 Canadian gross domestic product 8

2.2.2 U.S. gross domestic product 9

2.3 Measurement of labour input 10

2.3.1 Canadian labour input 10

2.3.2 U.S. labour input 11

3 Overview of the Canadian and U.S. economies **12**

3.1 Nominal gross domestic product by industry 12

3.1.1 Overview of nominal gross domestic product by industry 12

3.1.2 Overview of nominal gross domestic product by industry and by firm size 16

3.2 Hours worked 24

3.2.1 Overview 24

3.2.2 Hours worked by firm size 27

4 Conclusion **31**

5 Appendix **33**

5.1 Various employment indicators 33

5.2 Hours worked by industry and by firm size in Canada and the United States 35

5.3 Proportion of total business-sector hours worked by firm size in Canada and the United States 37

5.4 Small and large firms' business-sector gross domestic product and hours worked after removing health and education 39

5.5 Small and large firms' share of business-sector gross domestic product and hours worked after removing health and education 42

5.6 Proportion of total business-sector (nominal) gross domestic product for large firms by industry in the Canadian and U.S. business sectors after removing health and education 45

References **49**

Abstract

This paper examines the relative importance of small and large firms in the business sectors of Canada and the United States from 2002 to 2008.

Estimates of the contribution of small and large firms to Canadian gross domestic product (GDP) are presented. In this paper, small firms are defined as those with fewer than 500 employees and large firms as those with 500 or more employees.

The study found that the relative importance of small firms in terms of GDP and hours worked is larger in Canada than in the U.S—and that it is substantially greater when labour input, as opposed to gross domestic product (GDP) produced, is used for the analysis. In 2008, small firms in Canada generated 53.4% of business-sector GDP compared to 46.1% in the United States. The relative share of hours worked in the business sector was 70.8% in Canada compared to 55.6% in the United States. This implies that the relative productivity of small firms vis-à-vis large firms is lower in Canada than in the United States.

Executive summary

This paper compares the relative importance of small and large firms in the business sectors of Canada and the United States from 2002 to 2008 using estimates of the contribution of small and large firms to the gross domestic product (GDP) of each country. It then makes use of estimates of labour input for comparison purposes. In this paper, small firms are defined as those with fewer than 500 employees and large firms as those with 500 or more employees.

The relative importance of small firms in terms of GDP and hours worked is found to be larger in Canada—and substantially greater when labour input, rather than GDP, is used. In 2008, small firms in Canada generated 53.4% of business-sector GDP compared to 46.1% in the United States. The relative share of hours worked in the business sector was 70.8% in Canada, compared to 55.6% in the United States. This implies that the relative productivity of small firms vis-à-vis large firms is lower in Canada than in the United States.

The study also found that, from 2002 to 2008, both business-sector GDP and hours worked grew faster in Canada relative to the United States for both small and large firms—but that the differences were higher for large firms. From 2002 to 2008, growth of business-sector GDP was 4.9% for small firms and 7.5% for large firms in Canada while it was 4.3% for small firms and 5.5% for large firms in the United States. Furthermore, growth in business-sector hours worked was 1.0% for Canadian small firms and 2.8% for Canadian large firms from 2002 to 2008 compared to 0.4% for U.S. small firms and 1.2% for U.S. large firms.

1 Introduction

The relative economic activity generated by small and large firms has received considerable attention in recent decades. Researchers have related differences in the size distribution across countries to differences in dynamism, maturity, and efficiency.[1] The rise in the unincorporated self-employed (without paid workers) from the late 1980s to the late 1990s has also contributed to the attention given to the small-firm population.[2]

The importance (measured by employment) of small firms in the mid-1980s and the 1990s has been well documented. In the 2011 vintage of the Longitudinal Employment Analysis Program (LEAP), the share of large-firm employment in the total economy remained slightly below half throughout the 2000s (See subsection 5.1 of the Appendix, Table 16), reaching 46% in 2011.

Industry Canada's Key Small Business Statistics provide measures of the employment of small and large businesses using the Survey of Employment, Payrolls and Hours (SEPH). These statistics indicate that the employment shares of large firms in the business sector went from 34% in 2002 to 35% in 2010 (See subsection 5.1 of the Appendix, Table 17).

To measure the importance of firm size, previous studies have relied predominately on employment size (an input to the production process) rather than on a measure of output (GDP or value added). In contrast, Leung and Rispoli (2012) examined the relative importance of small and large firms using GDP.[3]

Since firm size is an often-cited structural feature that distinguishes the Canadian economy from the U.S. economy, precise measurement of the differences therein and analysis of the impact of different metrics—employment versus GDP—is important.[4] If different metrics yield inconsistent results, the debate about causes of structural differences needs to be nuanced. More importantly, differences in the metrics may provide additional information on the nature of the disadvantages that Canada's industrial structure produces.

Changes in the economic environment and how it impacts the relative contribution of small and large firms over time also need to be examined.

This paper presents estimates of the contribution of small and large firms to Canadian gross domestic product (GDP) for the period from 2002 to 2008 that are methodologically comparable to those produced for the United States. In this paper, small firms are those with fewer than 500 employees, and large firms are those with 500 or more employees.

The objective is to determine whether the Canadian economy contains a greater proportion of smaller firms than the U.S. economy. The study finds that the relative importance of small firms, whether measured by GDP or by hours worked, is larger in Canada. In 2008, Canadian small firms generated 53.4% and 70.8% of business-sector GDP and hours worked, respectively; U.S. small firms generated 46.1% and 55.6% of business-sector GDP and hours worked, respectively.

---

1. See, for example: Baldwin and Gorecki 1986; Davis and Henrikson 1999; Kanagarajah 2005; Kumar, Rajan, and Zingales 1999; Leung, Meh, and Terajima 2008; Morissette 1993; Rao, Tang, and Wang 2004; and Leung and Rispoli 2011.
2. See Rispoli (2009).
3. These estimates of GDP by firm size use ultimate-parent firm-level data to allocate each component of GDP calculated at basic prices (wages and salaries, supplementary labour income, mixed income, operating surplus, and indirect taxes on production less subsidies) to a firm size class.
4. U.S. GDP estimates are based on Kobe (2007, 2012). The non-labour compensation components of GDP are allocated to size classes on the basis of an indirect method. It uses supplementary aggregate statistics (the share of corporate receipts by employment size class from the U.S. Census Bureau and the share of the components of GDP across revenue size classes from the Internal Revenue Service [IRS]).

Users of the GDP-by-size estimates should recognize that these estimates are point estimates and are sensitive to the methods, the assumptions, and the particularities of the source data used to derive them.

The next section, Section 2, outlines the methodology employed for calculating GDP and business hours worked by firm size. Section 3 presents the results for each country's GDP estimates and hours worked by firm size, and Section 4 concludes.

2 Methodology

2.1 Coverage

This paper focuses on the business sector. In Canada, the business sector consists of all corporate businesses and unincorporated businesses organized for profit that produce goods and services for sale at a price intended to at least approximate the costs of production. Government business enterprises (GBEs) are included in this definition. Under this definition, the business sector in Canada accounted for 78% of total GDP in 2007. In the United States, it accounted for 80% of total GDP.[5]

2.2 Measurement of gross domestic product

Value added in the Canadian and U.S. systems of national accounts is the sum of gross value added of all resident producer units. Canadian GDP is valued at basic prices while U.S. GDP by industry produced by the Bureau of Economic Analysis (BEA) is valued at market prices. However, the EU KLEMS[6] revalues the U.S. GDP from BEA to basic prices, and these estimates will be used here. All of these estimates are produced by industry but not by firm size. Furthermore, the official Canadian business-sector GDP does not include nonprofit organizations while the official U.S. private-sector GDP includes nonprofit organizations.

The next two subsections discuss how business-sector GDP by firm and industry was derived for 2002 to 2008. In this paper, all GDP estimates by firm size are valued at basic prices.

2.2.1 Canadian gross domestic product

Value added in the Input-Output Accounts is the sum of gross value added of all resident producer units and is one of several measures of GDP in the Canadian System of National Accounts.[7] These estimates are produced at the industry level but not by firm size.[8] This paper produces GDP by industry and by firm size using the income approach for measuring GDP. Data from a number of sources are used to estimate the components included in the industry aggregates: wages and salaries; portions of supplementary labour income; mixed income; other operating surplus; and indirect taxes less subsidies.

5. Other sectors of the domestic economy, including government and the nonprofit sector (including households and institutions), are part of the non-business sector. In this paper, the non-business sector consists of government administration (federal, provincial, and municipal), defense, hospitals, public education, government residential care facilities, and the rent that is imputed to owner-occupied housing. Nonprofit activity is added to the business sector in order to be consistent with the EU KLEMS.
6. EU KLEMS is a project to create a database on measures of economic growth, productivity, employment creation, capital formation, and technological change at the industry level for all European Union member states from 1970 onwards.
7. See Leung, Rispoli, and Gibson (2011) for a discussion of the relative merits of the income approach versus the expenditure approach to measuring GDP by firm size.
8. The Input-Output Accounts are calculated on an establishment basis. This paper works at the level of the ultimate parent.

To measure these components, the paper uses administrative data from Canada Revenue Agency files edited for purposes of the National Accounts. The main data source for operating surplus and indirect taxes on production less subsidies is the General Index of Financial Information (GIFI) income statements included with the T2 (*Corporation Income Tax Return*) corporate tax filings of firms and the T1 (*General - Income Tax and Benefit Return*) unincorporated tax filings. The main data source for labour income is the T4 (*Statement of Remuneration Paid*) slips. Employment of each firm is obtained from PD7 (statement of account for current source deductions) payroll deduction accounts.

The methodology is based on that developed by Kobe (2007, 2012).[9] The estimation of labour income was relatively straightforward. Salary and wages (the largest component of labour income) from each firm's establishments (locations) were assigned to the appropriate size category of the firm.[10] The size class of the firm was based on the employment size of the commonly-controlled group of enterprises (ultimate parent) to which it belongs. Salary and wages from all locations within a firm were summed together to provide an estimate of the ultimate parent. The NAICS of the ultimate parent was assigned by determining the dominant industry that exhibited the largest salary and wages of an industry (s-level aggregation) belonging to the ultimate parent.

A different approach is employed in this paper to derive the estimate for the other GDP components for Canada. Following Kobe (2007), the non-compensation (primarily operating surplus) was produced mainly from tabulations of revenue and the components of GDP by revenue size class and industry published by the Internal Revenue Service (IRS)[11] as well as from tabulations of receipts and payroll by employment size class and industry from the U.S. Census Bureau.[12]

In this study, the Canadian estimates of non-labour compensation were produced by tabulating the revenue and GDP components of the General Index of Financial Information (GIFI), T1, and PD7 by revenue size class (linked using the Business Register). The resulting shares across firm sizes for each component of GDP are benchmarked industry-by-industry to the Input-Output Accounts.[13] The aggregate estimates for the business sector are the sum of the benchmarked industry estimates.

2.2.2 U.S. gross domestic product

Value added in the Bureau of Economic Analysis (BEA) Industry Accounts is derived as the sum of gross value added of all resident producer units and is valued at market prices. The EU KLEMS revalues these estimates to basic prices. These estimates are produced by industry but not by firm size. This paper uses the Kobe (2007) methodology (based on the income approach) to produce GDP by industry and by firm size. Both the BEA and EU KLEMS include all industries in the private sector and nonprofit institutions.

Kobe's (2007, 2012) estimates for the United States were produced mainly from tabulations of revenue and the components of GDP by revenue size class and industry published by the IRS as well as from tabulations of receipts and payroll by employment size class and industry from

9. A detailed description of Kobe's (2007) methodology can be found in that paper. Leung and Rispoli (2012) used a different methodology to derive the other GDP components, by assigning the GDP components directly to the employment size of the firm (i.e., using the methodology followed for labour income).
10. Benefits are not allocated by means of payroll shares. In both Kobe (2007) and Leung, Rispoli, and Gibson (2011), supplementary data sources were used to allocate the legislated and non-legislated portions of supplementary labour income to firm size classes. The methodology and data sources employed in Leung and Rispoli (2011) to allocate supplementary labour income are also used in this paper.
11. The IRS tabulations are available at http://www.irs.gov/uac/Tax-Stats-2.
12. The U.S. Census Bureau tabulations are available at http://www.census.gov/econ/susb/.
13. GDP for both corporations and unincorporated enterprises was estimated by firm size.

the U.S. Census Bureau. These tabulations were used to break down the BEA data on GDP by major component and industry.

The Statistics of U.S. Businesses (SUSB) program of the U.S. Census Bureau provided a special tabulation of payroll and receipts by employment size of firm, by industry, and by legal form of organization, which is used in this paper. All firms in the private sector are covered, including corporations and non-corporate enterprises as well as nonprofit institutions.[14] The public sector was excluded from the tabulations. For the wage and salaries component of GDP, the U.S. Census Bureau's estimates of payroll by employment size of firm is used directly to split wage and salaries across firm size classes. For the non-labour compensation portions of GDP for corporations, an indirect approach is adopted since these data are not available from the U.S. Census Bureau. The government sector in the SUSB data was included because, in Canada, this sector operates government business enterprises, which are part of the business sector.

The IRS produces non-compensation components of GDP by size class, but only by revenue size, not by employment size. To combine the two sources of data, Kobe (2007) first took the share of receipts for large firms from the U.S. Census Bureau and multiplied it by total revenue reported by the IRS. This calculation gave the fraction of revenue accounted for by large firms. The amount was then used to find the number of revenue size classes that large firms account for.[15] The estimates of components of GDP by size obtained from the U.S. Census Bureau and IRS data are then benchmarked industry-by-industry to the EU KLEMS.[16] This allows for comparisons to be made with Canada, because both estimates are valued at basic prices.

2.3 Measurement of labour input

Labour input in this paper is measured as hours worked. The hours worked in official productivity programs of Canada and the United States are produced at the industry level, but not by firm size.[17]

The next two subsections discuss the methodology used to estimate the labour input of the Canadian and U.S. business sectors from 2002 to 2008, and describe how the business sector is divided into small and large firms. To be consistent with the GDP estimates, nonprofit organizations are included with the business sector.

2.3.1 Canadian labour input

Labour input in this paper is measured as hours worked. This is done in two steps—first, by estimating jobs according to firm size for both paid workers and self-employed owners; and, second, by estimating hours worked per job for these two groups. The product of the two generates an estimate of total hours worked by firm size and industry for the period from 2002 to 2008.

14. Since agriculture is not covered in the SUSB, an estimate by firm size was derived from U.S. Current Population Survey payroll data.
15. In this study, the GDP of the non-corporate sector was allocated back to small- and large-size classes. In Kobe (2007), the entire non-corporate sector was placed in the small-size category. The impact on small-size GDP was to reduce the importance of small-size business by about 2% in 2002. For reasons of data availability, the structure of the 2003 non-corporate IRS data by revenue size classes was used to project revenue size classes from 2004 to 2008. A similar adjustment was made in Kobe (2012).
16. The industry groups in the paper are based on EU KLEMS.
17. The sources for the official estimates in both countries used to calculate hours worked are not exactly the same. If the same sources were used, this would bias the estimates of Canadian productivity downwards relative to those of the United States (Baldwin et al. 2005). This paper employs the same data sets for each country to derive GDP and hours worked.

At the first stage, hours worked are estimated for paid workers. This first requires an estimate of jobs of paid workers by firm size. The estimate of jobs by firm size by industry is derived from the PD7 file (business sector only) and benchmarked to the major industry level and number of jobs as published by Statistics Canada's Productivity Accounts (SCPA). These include paid workers for both corporate and unincorporated enterprises. This was added to the estimate of employment of nonprofit organizations which came from the SCPA.[18]

At the second stage, hours worked per paid worker were estimated. The latter is estimated by firm size and industry using the Labour Force Survey (LFS).[19] Total hours are calculated as the product of jobs and hours worked per job. These, in turn, were benchmarked to the business-sector hours worked of paid employees by industry as published by the SCPA. Again, an estimate of hours worked for nonprofit organizations was multiplied by usual hours worked of paid workers obtained from the SCPA.

The next step was to estimate the total hours worked of the unincorporated self-employed from the SCPA. In this paper, all of the unincorporated self-employed with zero employees were allocated into the small-size category while those with paid employees were derived as mentioned in the previous paragraph. Paid hours worked and unincorporated hours worked were added together in order to arrive at business-sector hours worked for small and large businesses.

2.3.2 U.S. labour input

As was the case for Canadian labour input, U.S. hours worked by firm size were estimated in two steps for the period from 2002 to 2008. Jobs of paid workers by firm (employment) size by industry were obtained from a special tabulation by the SUSB program of the U.S. Census Bureau that covered all industries in the private sector, including corporations and non-corporate enterprises as well as nonprofit institutions. The government sector was also included, since government business enterprises are included in the business sector in Canada. Non-employers obtained from the SUSB program were placed in the small-size category. These were then benchmarked to the official jobs of paid workers and self-employed derived from the BEA.

The next stage involved estimating hours worked by firm size and by industry. Usual hours worked for paid workers and non-corporate self-employed by firm size were obtained from the U.S. Current Population Survey (CPS) for the period from 2002 to 2008. These were then multiplied by the jobs data obtained in step one, in order to arrive at estimates by firm size. They were then benchmarked to the official hours worked of paid workers from the BEA and also to the Bureau of Labor Statistics (BLS) for the owners of firms in the non-corporate sector (i.e., self-employed owners). The two were then combined in order to arrive at the number of hours worked in the business sector by firm size and industry. To be consistent with the methodology used to estimate U.S. GDP by firm size, the hours worked by firm size were benchmarked to WORLD KLEMS.[20]

---

18. Nonprofit employment was allocated to small- and large-size classes according to PD7 employment data for nonprofit organizations.
19. Both usual hours worked and actual hours worked were compared by size class. It was found that the distributions across size classes were similar. Usual hours worked were employed for consistency with the U.S. methodology. An estimate of nonprofit hours worked by firm size was obtained by first multiplying the employment of nonprofit organizations as derived in step one, discussed in subsection 2.3.1, by the usual hours worked of paid workers, and then benchmarking to hours worked of nonprofit organizations obtained from the SCPA.
20. At the time of this study, the WORLD KLEMS data for hours worked instead of the EU KLEMS data were used since more recent updates had been made to the WORLD KLEMS database. However, since data for 2008 were not available, results were estimated by projecting data from the BEA according to WORLD KLEMS industry groupings. For health and education, the WORLD KLEMS data (which includes the public sector) were replaced by the BEA data for the business sector.

3 Overview of the Canadian and U.S. economies

3.1 Nominal gross domestic product by industry

The following sections compare the structure of Canadian and U.S. industries in terms of nominal GDP from 2002 to 2008 for the entire business sector and by firm size.

3.1.1 Overview of nominal gross domestic product by industry

This section compares the structure of industries between Canada and United States from 2002 to 2008. It first looks at business-sector growth by industry in each country. The differences in industry composition are then analyzed.

From 2002 to 2008, nominal GDP measured at basic prices in both the Canadian and the U.S. economies grew by an average of 6.0% per year for Canada and 4.9% per year for the United States (Table 1). During this period, the goods-producing and services industries grew by an average of about 6.4% per year in Canada and by an average of about 4.9% per year in the United States.

Table 1

Nominal gross domestic product for the business sector by industry in Canada and the United States, 2002 and 2008

	Canada			United States		
	2002	2008	Average annual growth, 2002 to 2008	2002	2008	Average annual growth, 2002 to 2008
	millions of Canadian dollars		percent	millions of U.S. dollars		percent
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	22,643	27,924	3.6	94,405	159,374	9.1
Electricity, gas, and water supply	27,314	34,454	3.9	211,614	298,879	5.9
Construction	57,775	107,605	10.9	494,328	614,204	3.7
Mines, oil and gas	53,488	154,758	19.4	109,462	319,167	19.5
Manufacturing	182,735	173,653	-0.8	1,355,535	1,628,498	3.1
Total	343,956	498,394	6.4	2,265,344	3,020,122	4.9
Services industries						
Wholesale and retail trade	113,709	161,692	6.0	1,346,048	1,672,696	3.7
Transport, storage, and communication	84,111	112,165	4.9	591,715	786,037	4.8
Financial intermediation	45,670	65,008	6.1	863,537	1,041,460	3.2
Real estate, renting, and business activities	146,901	209,958	6.1	1,683,371	2,423,336	6.3
Education	4,161	5,618	5.1	99,000	147,600	6.9
Health and social work	30,480	44,657	6.6	690,900	1,006,300	6.5
Hotels and restaurants	25,230	32,812	4.5	309,010	404,907	4.6
Other community, social, and personal services	36,026	49,140	5.3	387,106	475,063	3.5
Total	486,289	681,050	5.8	5,970,687	7,957,399	4.9
Business sector						
Total	830,244	1,179,444	6.0	8,236,031	10,977,521	4.9

Notes: Figures have been rounded and may not add up to total values. Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Most industries contributed to economic growth in both countries, with the exception of manufacturing, which declined in Canada. Canadian manufacturing growth was hampered by the appreciation of the Canadian dollar relative to the U.S. dollar during the early 2000s. GDP growth in most industries was similar between Canada and the United States. The exceptions were agriculture, which grew faster in the United States, and construction, which grew faster in Canada. The fastest-growing industry in both countries was Mines, Oil and Gas, which benefited from the resource boom starting in 2003: it grew by an average of 19.4% per year in Canada and by an average of 19.5% per year in the United States from 2002 to 2008.

The industry distribution (measured as a percentage of business-sector GDP) was very different in the goods-producing industries and the services industries (Table 2). The proportion of business-sector GDP for goods-producing industries was larger in Canada (42.3% in 2008) than in the United States (27.5% in 2008), while the proportion for services (57.7% in 2008) was much smaller in Canada than in the United States (72.5% in 2008).

In the goods-producing industries, the proportion of GDP in mining (including oil and gas) and construction increased in Canada. By 2008, the proportion of GDP in mining, oil and gas (13.1%) was four times larger in Canada than in the United States (2.9%). By 2008, the proportion of GDP for construction (9.1%) was almost twice as large in Canada as in the United States (5.6%).

Table 2

Nominal gross domestic product for the business sector by industry in Canada and the United States, 2002 and 2008

	Proportion to total				Difference (United States less Canada)	
	Canada		United States			
	2002	2008	2002	2008	2002	2008
	percent					
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	2.7	2.4	1.1	1.5	-1.6	-0.9
Electricity, gas, and water supply	3.3	2.9	2.6	2.7	-0.7	-0.2
Construction	7.0	9.1	6.0	5.6	-1.0	-3.5
Mines, oil and gas	6.4	13.1	1.3	2.9	-5.1	-10.2
Manufacturing	22.0	14.7	16.5	14.8	-5.6	0.1
Total	41.4	42.3	27.5	27.5	-13.9	-14.7
Services industries						
Wholesale and retail trade	13.7	13.7	16.3	15.2	2.6	1.5
Transport, storage, and communication	10.1	9.5	7.2	7.2	-2.9	-2.3
Financial intermediation	5.5	5.5	10.5	9.5	5.0	4.0
Real estate, renting, and business activities	17.7	17.8	20.4	22.1	2.7	4.3
Education	0.5	0.5	1.2	1.3	0.7	0.9
Health and social work	3.7	3.8	8.4	9.2	4.7	5.4
Hotels and restaurants	3.0	2.8	3.8	3.7	0.7	0.9
Other community, social, and personal services	4.3	4.2	4.7	4.3	0.4	0.2
Total	58.6	57.7	72.5	72.5	13.9	14.7
Business sector						
Total	100.0	100.0	100.0	100.0	...	...

... not applicable

Notes: Figures have been rounded and may not add up to total values. Industries are at the S-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

For services, the proportion of GDP in financial intermediation in Canada (5.5% in 2008) was about three-fifths as large as that in the United States (9.5% in 2008).[21] Other differences occurred in education and in health and social work, where private education and private health services (i.e., private hospitals) are more prevalent in the United States than in Canada.[22] Real estate, renting, and business services accounted for a significant proportion of GDP in both countries, reaching 17.8% in Canada and 22.1% in the United States in 2008.

3.1.2 Overview of nominal gross domestic product by industry and by firm size

Over the period from 2002 to 2008, the small-firm share of GDP declined in both Canada and the United States. In Canada, small firms generated 57.1% of business-sector GDP in 2002; this fell to 53.4% in 2008 (Table 3). In the United States, small firms represented 47.8% of GDP in 2002. This fell moderately throughout the 2000s, to 46.1% in 2008 (Table 3). Relative to large firms, small firms play a larger role in the Canadian economy than their counterparts in the United States. The rest of the analysis examines industry detail to determine where these differences occurred.[23]

21. This may partially be due to the relatively larger non-corporate U.S. financial sector. See Baldwin, Leung, and Rispoli (2011).
22. Subsections 5.4, 5.5, and 5.6 of the Appendix contain industry shares that remove education and health.
23. The large- and small-firm shares of business-sector GDP and hours worked do not change substantially when education and health are removed from the business sector, given the heavy government ownership in Canada compared to the United States (see subsections 5.4, 5.5, and 5.6 of the Appendix). For example, the share of large firms in Canada after removing education and health from the business sector would rise to 48.1% from 46.6% in 2008 as reported in Table 3. The main reason for this increase is that most of the health sector is composed of doctors and dentists, which fall mostly in the small-firm category. In the United States, the large-firm share for 2008 remained virtually unchanged when these exclusions were made.

Table 3

Business-sector nominal gross domestic product by firm size, Canada and United States, 2002 to 2008

	2002	2003	2004	2005	2006	2007	2008
				millions of Canadian dollars			
Canada							
Gross domestic product							
Small firms	473,717	484,797	519,907	547,395	573,686	606,769	629,447
Large firms	356,527	392,769	420,829	459,427	489,377	514,919	549,998
All	830,244	877,565	940,736	1,006,822	1,063,063	1,121,688	1,179,444
				percent			
Share of total business-sector gross domestic product							
Small firms	57.1	55.2	55.3	54.4	54.0	54.1	53.4
Large firms	42.9	44.8	44.7	45.6	46.0	45.9	46.6
				millions of U.S. dollars			
United States							
Gross domestic product							
Small firms	3,939,306	4,111,022	4,387,019	4,552,801	4,795,842	5,024,467	5,059,411
Large firms	4,296,725	4,520,498	4,798,461	5,242,852	5,601,632	5,857,614	5,918,110
All	8,236,031	8,631,520	9,185,481	9,795,653	10,397,473	10,882,080	10,977,521
				percent			
Share of total business-sector gross domestic product							
Small firms	47.8	47.6	47.8	46.5	46.1	46.2	46.1
Large firms	52.2	52.4	52.2	53.5	53.9	53.8	53.9

Notes: Figures have been rounded and may not add up to total values. Authors' own calculations using the sources below.
Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Table 4

Average annual growth of business-sector nominal gross domestic product by firm size, Canada and United States, 2002 to 2008

	Average annual growth, 2002 to 2008
	percent
Canada	
Gross domestic product	
Small firms	4.9
Large firms	7.5
All	6.0
United States	
Gross domestic product	
Small firms	4.3
Large firms	5.5
All	4.9

Note: Statistics Canada, authors' own calculations using the sources below.
Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

The large-firm share of GDP at a more detailed industry level was generally greater in the United States than in comparable Canadian industries (Table 5). The United States had more industries (eight industries) whose large-firm share was more than 50% in 2008 than Canada did (five industries). The exceptions were electricity, gas, and water supply (Canada's share is slightly larger), and mines, oil and gas. The highest large-firm share occurred in very capital-intensive industries (electricity, gas, and water supply; mines, oil and gas; manufacturing; transport and information) and in financial intermediation.

There were considerable differences across industries between the two countries in terms of the importance of large firms. The Canadian share of large-firm GDP was less than that in the United States more frequently in the services industries than in the goods-producing sector. In 2008, the large-firm share of the services industry in Canada was 40.2%, compared to 52.8% in the United States, while it was 55.4% in the goods-producing industries in Canada, compared to 56.8% in the United States.[24]

The most notable increase in the share of large-firm GDP in Canada between 2002 and 2008 occurred in mines, oil and gas: the large-firm share of GDP in this industry increased by 12.2 percentage points, from 72.1% in 2002 to 84.3% in 2008. The increase in the growth of large firms in mines, oil and gas occured during the resource boom starting in 2003. A number of industries experienced a more moderate increase of roughly 6 percentage points in their contribution from large firms (transportation, real estate, and business services; wholesale and retail trade). This increase was partly offset by a decline in manufacturing as its large-firm share fell from 62.4% in 2002 to 56.6% in 2008. Apart from these two significant occurrences, increases in the share of large-firm GDP was widespread and occurred across many industries (ten industries). Similarly, increases in the United States share of large-firm GDP were spread across different industries (eight industries).

24. The differences in the services industries would remain if education and health were removed from service industries (see subsections 5.5 and 5.6 of the Appendix). In 2008, the share of large firms for services would rise slightly, to 42.4%, in Canada while, in the U.S., the share would fall slightly, to 52.6%.

Table 5

Share of nominal gross domestic product for large firms in the business sectors of Canada and the United States, 2002 and 2008

	Share of large firms			
	Canada		United States	
	2002	2008	2002	2008
	percent			
Goods-producing industries				
Agriculture, hunting, forestry, and fishing	2.2	0.9	5.5	3.1
Electricity, gas, and water supply	82.7	88.1	85.2	81.1
Construction	12.6	15.3	16.5	19.1
Mines, oil and gas	72.1	84.3	68.6	65.2
Manufacturing	62.4	56.6	71.0	70.2
Total	53.2	55.4	57.6	56.8
Services industries				
Wholesale and retail trade	33.4	39.9	49.7	53.9
Transport, storage, and communication	63.2	69.4	75.9	75.9
Financial intermediation	71.7	72.2	70.7	71.6
Real estate, renting, and business activities	23.3	29.6	38.8	42.8
Education	42.2	35.1	57.2	60.2
Health and social work	7.9	9.9	49.7	53.3
Hotels and restaurants	21.5	24.0	44.9	48.8
Other community, social, and personal services	16.6	17.1	18.5	21.0
Total	35.7	40.2	50.1	52.8
Business sector				
Total	42.9	46.6	52.2	53.9

Notes: Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.
Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

In Canada, large-firm nominal GDP growth for both goods-producing industries and services industries substantially outpaced that in the United States from 2002 to 2008 (Table 6). Canadian large-firm nominal GDP growth was much stronger in construction and in most services industries, but weaker in manufacturing.

Differences in the importance of large firms at the aggregate total-economy level depend not only on differences at the industry level but also on differences in the industrial structure (the importance of different industries). Comparisons of the source of large-firm GDP (or employment) reveal the joint effect of industry intensity and concentration of overall activity in that industry.

Table 6

Nominal gross domestic product for large firms in the business sectors of Canada and the United States, 2002 and 2008

	Canada			United States		
	2002	2008	Average annual growth, 2002 to 2008	2002	2008	Average annual growth, 2002 to 2008
	millions of Canadian dollars		percent	millions of U.S. dollars		percent
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	494	262	-10.1	5,198	4,892	-1.0
Electricity, gas, and water supply	22,589	30,345	5.0	180,253	242,284	5.1
Construction	7,297	16,515	14.6	81,778	117,486	6.2
Mines, oil and gas	38,553	130,506	22.5	75,131	208,084	18.5
Manufacturing	113,953	98,265	-2.4	961,785	1,142,438	2.9
Total	182,885	275,892	7.1	1,304,145	1,715,183	4.7
Services industries						
Wholesale and retail trade	37,948	64,499	9.2	668,492	901,547	5.1
Transport, storage, and communication	53,174	77,805	6.5	449,302	596,895	4.8
Financial intermediation	32,747	46,917	6.2	610,895	745,471	3.4
Real estate, renting, and business activities	34,192	62,228	10.5	653,332	1,036,717	8.0
Education	1,757	1,973	2.0	56,664	88,814	7.8
Health and social work	2,414	4,433	10.7	343,538	535,989	7.7
Hotels and restaurants	5,424	7,870	6.4	138,713	197,760	6.1
Other community, social, and personal services	5,984	8,380	5.8	71,644	99,735	5.7
Total	173,642	274,105	7.9	2,992,580	4,202,927	5.8
Business sector						
Total	356,527	549,998	7.5	4,296,725	5,918,110	5.5

Notes: Figures have been rounded and may not add up to total values. Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

The percentage of total business-sector GDP in large firms is concentrated in specific industries (Table 7). There is more GDP in large firms in the goods sector in Canada than the United States and less GDP in large firms in the services industries. A notable difference was observed in the mines, oil and gas industry, where large-firm shares were about seven times larger in Canada than in the United States. Another notable advantage for Canada occurred in transportation, storage, and communication. Conversely, the United States had a higher large-firm share of GDP in health, in financial intermediation, and in real estate, renting, and business activities.[25]

Table 7

Proportion of total business-sector (nominal) gross domestic product for large firms by industry in the business sectors of Canada and the United States, 2002 and 2008

	Proportion to total				Difference (United States less Canada)	
	Canada		United States			
	2002	2008	2002	2008	2002	2008
	percent					
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	0.1	0.0	0.1	0.1	0.0	0.0
Electricity, gas, and water supply	6.3	5.5	4.2	4.1	-2.1	-1.4
Construction	2.0	3.0	1.9	2.0	-0.1	-1.0
Mines, oil and gas	10.8	23.7	1.7	3.5	-9.1	-20.2
Manufacturing	32.0	17.9	22.4	19.3	-9.6	1.4
Total	51.3	50.2	30.4	29.0	-20.9	-21.2
Services industries						
Wholesale and retail trade	10.6	11.7	15.6	15.2	4.9	3.5
Transport, storage, and communication	14.9	14.1	10.5	10.1	-4.5	-4.1
Financial intermediation	9.2	8.5	14.2	12.6	5.0	4.1
Real estate, renting, and business activities	9.6	11.3	15.2	17.5	5.6	6.2
Education	0.5	0.4	1.3	1.5	0.8	1.1
Health and social work	0.7	0.8	8.0	9.1	7.3	8.3
Hotels and restaurants	1.5	1.4	3.2	3.3	1.7	1.9
Other community, social, and personal services	1.7	1.5	1.7	1.7	0.0	0.2
Total	48.7	49.8	69.6	71.0	20.9	21.2
Business sector						
Total	100.0	100.0	100.0	100.0	...	...

... not applicable

Notes: Figures have been rounded and may not add up to total values. Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

25. The differences as reported in Table 7 in the percentage of total business-sector GDP by industry for large firms would be larger if education and health were removed from the business sector (see subsection 5.6 of the Appendix). The percentage difference in financial intermediation between Canada and the United States as reported in Table 7 was 4.1% in 2008, which would increase to 5.5% if education and health were removed from the business sector. The proportion of total business-sector GDP by industry for large firms remained virtually unchanged in Canada while, in the United States, the goods-producing industries play a larger role than the services industries. For instance, the proportion of large-firm GDP increases to 32.4% in 2008 from 29.0% in 2002 as reported in Table 7.

For small firms, nominal GDP in most Canadian industries from 2002 to 2008 grew at rates similar to those of their U.S. counterparts in services and for the entire business sector (Table 8). Larger differences were observed in the goods-producing sectors. GDP growth of small firms was substantially stronger in the U.S. than in Canada for agriculture, electricity, gas, and water supply, and mines, oil and gas, while small-firm GDP growth was stronger in Canada than in the United States in the construction sector.

Table 8

Nominal gross domestic product for small firms in the business sectors of Canada and the United States, 2002 and 2008

	Canada			United States		
	2002	2008	Average annual growth, 2002 to 2008	2002	2008	Average annual growth, 2002 to 2008
	millions of Canadian dollars		percent	millions of U.S. dollars		percent
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	22,149	27,663	3.8	89,207	154,482	9.6
Electricity, gas, and water supply	4,725	4,109	-2.3	31,361	56,595	10.3
Construction	50,478	91,090	10.3	412,550	496,718	3.1
Mines, oil and gas	14,936	24,252	8.4	34,331	111,083	21.6
Manufacturing	68,783	75,388	1.5	393,750	486,060	3.6
Total	161,070	222,502	5.5	961,199	1,304,939	5.2
Services industries						
Wholesale and retail trade	75,762	97,193	4.2	677,556	771,149	2.2
Transport, storage, and communication	30,936	34,360	1.8	142,413	189,141	4.8
Financial intermediation	12,923	18,091	5.8	252,642	295,989	2.7
Real estate, renting, and business activities	112,709	147,729	4.6	1,030,039	1,386,619	5.1
Education	2,404	3,645	7.2	42,336	58,786	5.6
Health and social work	28,066	40,225	6.2	347,362	470,311	5.2
Hotels and restaurants	19,806	24,941	3.9	170,297	207,147	3.3
Other community, social, and personal services	30,041	40,760	5.2	315,462	375,328	2.9
Total	312,647	406,945	4.5	2,978,107	3,754,472	3.9
Business sector						
Total	473,717	629,447	4.9	3,939,306	5,059,411	4.3

Notes: Figures have been rounded and may not add up to total values. Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

The difference in the distribution of small-firm GDP between Canada and the United States was concentrated in a few industries (Table 9). The proportion of GDP in small firms was larger for construction in Canada while it was larger in health, financial intermediation, and real estate, renting, and business activities in the United States. These differences reflected differences in the overall industry structure of the two countries.

Table 9

Proportion of total business-sector (nominal) gross domestic product for small firms by industry in the business sectors of Canada and the United States, 2002 and 2008

	Proportion to total				Difference (United States less Canada)	
	Canada		United States			
	2002	2008	2002	2008	2002	2008
	percent					
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	4.7	4.4	2.3	3.1	-2.4	-1.3
Electricity, gas, and water supply	1.0	0.7	0.8	1.1	-0.2	0.5
Construction	10.7	14.5	10.5	9.8	-0.2	-4.7
Mines, oil and gas	3.2	3.9	0.9	2.2	-2.3	-1.7
Manufacturing	14.5	12.0	10.0	9.6	-4.5	-2.4
Total	34.0	35.3	24.4	25.8	-9.6	-9.6
Services industries						
Wholesale and retail trade	16.0	15.4	17.2	15.2	1.2	-0.2
Transport, storage, and communication	6.5	5.5	3.6	3.7	-2.9	-1.7
Financial intermediation	2.7	2.9	6.4	5.9	3.7	3.0
Real estate, renting, and business activities	23.8	23.5	26.1	27.4	2.4	3.9
Education	0.5	0.6	1.1	1.2	0.6	0.6
Health and social work	5.9	6.4	8.8	9.3	2.9	2.9
Hotels and restaurants	4.2	4.0	4.3	4.1	0.1	0.1
Other community, social, and personal services	6.3	6.5	8.0	7.4	1.7	0.9
Total	66.0	64.7	75.6	74.2	9.6	9.6
Business sector						
Total	100.0	100.0	100.0	100.0	...	...

... not applicable

Notes: Figures have been rounded and may not add up to total values. Industries are at the S-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

3.2 Hours worked

The following sections analyze the structure of Canadian and U.S. industries in terms of hours worked from 2002 to 2008 for the entire business sector and by firm size.

3.2.1 Overview

This section first reports business-sector growth by industry. This is followed by analysis of the similarities and differences in industry composition over this time period.

Hours worked in the business sector in Canada grew by an average of 1.5% per year compared to an average of 0.7% per year in the United States (Table 10). Most of the discrepancy was due to the faster pace of growth in the Canadian goods-producing industries (average growth of 0.7% per year) than in U.S. goods-producing industries (which fell by an average of 0.7% per year). Generally, hours worked grew in most industries in both countries. However, they fell in both countries for agriculture and manufacturing.

Growth in hours worked was substantially stronger across more industries in Canada than in the United States. This was the case for the following: electricity, gas, and water supply; construction; wholesale and retail; transportation, storage, and communication; financial intermediation; real estate, renting, and business activities; and other community, social, and personal services.

Table 10
Hours worked for the business sector by industry in Canada and the United States, 2002 and 2008

	Canada			United States		
	2002	2008	Average annual growth, 2002 to 2008	2002	2008	Average annual growth, 2002 to 2008
	thousands of hours worked		percent	thousands of hours worked		percent
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	909,844	778,055	-2.6	6,111,838	5,581,182	-1.5
Electricity, gas, and water supply	165,543	187,581	2.1	1,362,075	1,336,622	-0.3
Construction	1,917,030	2,631,404	5.4	17,401,027	18,416,967	1.0
Mines, oil and gas	330,271	507,578	7.4	1,065,193	1,619,587	7.2
Manufacturing	3,911,095	3,456,968	-2.0	31,479,629	28,048,691	-1.9
Total	7,233,783	7,561,586	0.7	57,419,763	55,003,050	-0.7
Services industries						
Wholesale and retail trade	4,553,020	4,848,067	1.1	35,186,538	35,681,497	0.2
Transport, storage, and communication	2,054,150	2,246,959	1.5	13,152,528	13,153,551	0.0
Financial intermediation	843,301	925,499	1.6	11,114,535	11,414,714	0.4
Real estate, renting, and business activities	3,497,737	4,336,343	3.6	35,569,183	39,713,745	1.9
Education	149,301	171,816	2.4	4,572,735	5,370,916	2.7
Health and social work	969,700	1,107,621	2.2	24,621,635	28,964,788	2.7
Hotels and restaurants	1,696,299	1,801,235	1.0	15,717,860	17,024,051	1.3
Other community, social, and personal services	1,798,692	1,921,551	1.1	16,277,900	16,600,218	0.3
Total	15,562,201	17,359,091	1.8	156,212,914	167,923,479	1.2
Business sector						
Total	22,795,984	24,920,678	1.5	213,632,677	222,926,530	0.7

Notes: Figures have been rounded and may not add up to total values. Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Industry structure (measured as a percentage of total business-sector hours worked) was similar in Canada and the United States for most industries and changed very little over the period (Table 11). The largest inter-country difference occurred in health, followed by wholesale and retail, transportation, construction, and financial intermediation.

The GDP and hours-worked proportions by industry were similar for most industries, with some notable exceptions. For example, the percentage of hours in mining was similar (about 1% to 2% in 2008) in the two countries while the percentage of GDP was 13.1% in Canada but only 2.9% in the United States.

Table 11

Share of hours worked for the business sector by industry in Canada and the United States, 2002 and 2008

	Proportion to total				Difference (United States less Canada)	
	Canada		United States			
	2002	2008	2002	2008	2002	2008
	percent					
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	4.0	3.1	2.9	2.5	-1.1	-0.6
Electricity, gas, and water supply	0.7	0.8	0.6	0.6	-0.1	-0.2
Construction	8.4	10.6	8.1	8.3	-0.3	-2.3
Mines, oil and gas	1.4	2.0	0.5	0.7	-1.0	-1.3
Manufacturing	17.2	13.9	14.7	12.6	-2.4	-1.3
Total	31.7	30.3	26.9	24.7	-4.9	-5.7
Services industries						
Wholesale and retail trade	20.0	19.5	16.5	16.0	-3.5	-3.4
Transport, storage, and communication	9.0	9.0	6.2	5.9	-2.9	-3.1
Financial intermediation	3.7	3.7	5.2	5.1	1.5	1.4
Real estate, renting, and business activities	15.3	17.4	16.6	17.8	1.3	0.4
Education	0.7	0.7	2.1	2.4	1.5	1.7
Health and social work	4.3	4.4	11.5	13.0	7.3	8.5
Hotels and restaurants	7.4	7.2	7.4	7.6	-0.1	0.4
Other community, social, and personal services	7.9	7.7	7.6	7.4	-0.3	-0.3
Total	68.3	69.7	73.1	75.3	4.9	5.7
Business sector						
Total	100.0	100.0	100.0	100.0	...	...

... not applicable

Notes: Figures have been rounded and may not add up to total values. Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

3.2.2 Hours worked by firm size

Canadian small firms accounted for 70.8% of hours worked in the business sector in 2008. This was substantially larger than the result for the United States (55.6% in 2008) (See subsection 5.3 of the Appendix).[26] Hours worked by small firms declined in importance in both countries, falling from 73.0% in 2002 to 70.8% in 2008 in Canada and from 56.8% in 2002 to 55.6% in 2008 in the United States. Growth in business-sector hours worked for both small and large firms was stronger in Canada than in the United States from 2002 to 2008. Canadian

26. The U.S. share estimated by firm size for hours worked differs from the 2007 findings of Kobe (2012) in that the hours worked estimated in this paper include an estimate for non-employers (part of the unincorporated self-employed) while this is not part of Kobe's estimate.

small firms grew at 1.0% per year and large firms at 2.8% per year. U.S. small firms grew at 0.4% per year and large firms at 1.2% per year.[27]

This difference in the share of hours worked of small firms between Canada and the United States occurs for two reasons. First, about two-thirds of hours worked by paid workers took place in small firms in Canada while in the United States the distribution between small and large firms is more even (Table 12). Second, there is a higher proportion of unincorporated self-employed owners in Canada (part of small firms) than in the United States.

Table 12

Related indicators of hours worked by industry in Canada and the United States, 2008

	Self-employed share of all employment		Small-firm share of paid employment	
	Canada	United States	Canada	United States
		percent		
Agriculture	49.0	44.6	98.2	90.5
Mining	1.7	1.9	40.0	43.8
Utilities	0.7	0.0	8.7	16.4
Construction	14.2	18.3	88.5	83.1
Manufacturing	3.1	2.4	57.1	43.1
Wholesale trade	2.5	3.8	72.0	59.1
Retail trade	4.4	7.5	58.2	40.3
Transportation	11.2	10.7	56.9	35.4
Information	5.2	4.7	34.9	26.0
Finance	8.6	6.4	51.4	36.8
Professional	19.2	13.7	74.3	59.7
Administrative	11.9	11.8	58.5	36.2
Education	45.1	3.4	82.7	43.7
Health	32.7	7.8	93.1	46.4
Arts	24.0	4.2	71.8	61.2
Accommodation	5.2	9.1	84.5	60.2
Other services	18.4	14.0	93.9	84.6
Business sector	11.3	9.3	67.0	50.7

Notes: Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Across goods-producing industries and services sectors, there are considerable differences between the two countries in the share of hours worked in large firms, with shares in the United States very much higher (Table 13). This occurred in every industry except for electricity, gas, and water supply, and mines, oil and gas. The United States had more industries (seven industries) whose large-firm share was more than 50% than Canada (three industries) in 2008. The tendency to employ proportionally more workers in large firms extends across much of the industrial spectrum.

Increases in the share of hours worked for large firms occurred across many industries in Canada (eight industries) and the United States (eight industries). In both countries, declines in the large-firm share of hours worked occurred in agriculture, manufacturing, and financial intermediation.

27. As reported in subsections 5.4 and 5.5, if education and health were removed from the business sector, the share of hours worked for large firms would increase slightly in Canada and would fall slightly in the United States. For example, in Canada, the large-firm share would increase from 29.2%, as reported in Table 13, to 30.2%, as reported in Table 25, in 2008. In the United States, the large-firm share would fall from 44.4%, as reported in Table 13, to 43.3%, as reported in Table 25, in 2008.

Table 13
Share of large-firm business-sector hours worked by industry, Canada and United States, 2002 and 2008

	Share of large firms			
	Canada		United States	
	2002	2008	2002	2008
	percent			
Goods-producing industries				
Agriculture, hunting, forestry, and fishing	1.5	0.9	2.7	2.3
Electricity, gas, and water supply	87.4	90.7	83.4	83.6
Construction	8.2	9.8	12.8	13.8
Mines, oil and gas	57.1	59.0	57.3	55.1
Manufacturing	44.1	41.6	57.6	55.5
Total	30.8	28.7	38.8	36.8
Services industries				
Wholesale and retail trade	28.4	35.5	46.2	50.1
Transport, storage, and communication	38.0	45.4	59.6	62.8
Financial intermediation	63.5	62.3	69.4	67.8
Real estate, renting, and business activities	24.1	27.7	43.2	45.9
Education	33.6	25.0	51.1	54.4
Health and social work	5.2	7.6	49.3	49.4
Hotels and restaurants	11.8	14.7	36.3	36.2
Other community, social, and personal services	10.1	10.0	16.4	18.7
Total	25.3	29.4	44.8	46.8
Business sector				
Total	27.0	29.2	43.2	44.4

Notes: Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.
Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Overall, the difference in the industrial structure of hours worked (in terms of the percentage of total business-sector hours worked) for large firms is concentrated in certain industries (Table 14): Canada had larger proportions in wholesale and retail, transportation, mines, oil and gas, and manufacturing; and the United States had larger proportions in health, real estate, renting, and business activities, and hotels.

Contrary to the situation with respect to large firms, the differences in the industrial structure of hours worked (in terms of the percentage of total business-sector hours worked) for small firms across industries between Canada and the United States were small, with one notable difference—health (Table 15).[28] Cross-industry differences in the relative importance of an industry (as measured by hours worked) therefore are attributable to a greater extent to differences in the distribution of hours worked among large firms across industries.

28. When health and education are removed from the business sector, the differences in the distribution between Canada and the United States are between 1 percentage point and 2 percentage points in 2008 (See subsection 5.6 of the Appendix).

Table 14

Distribution of hours worked by industry for large firms in the business sectors of Canada and the United States, 2002 and 2008

	Proportion to total				Difference (United States less Canada)	
	Canada		United States			
	2002	2008	2002	2008	2002	2008
	percent					
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	0.2	0.1	0.2	0.1	0.0	0.0
Electricity, gas, and water supply	2.3	2.3	1.2	1.1	-1.1	-1.2
Construction	2.6	3.6	2.4	2.6	-0.1	-1.0
Mines, oil and gas	3.1	4.1	0.7	0.9	-2.4	-3.2
Manufacturing	28.0	19.8	19.6	15.8	-8.3	-4.0
Total	36.2	29.9	24.1	20.5	-12.0	-9.4
Services industries						
Wholesale and retail trade	21.0	23.6	17.6	18.1	-3.4	-5.5
Transport, storage, and communication	12.6	14.0	8.5	8.3	-4.2	-5.7
Financial intermediation	8.7	7.9	8.4	7.8	-0.3	-0.1
Real estate, renting, and business activities	13.7	16.5	16.7	18.4	3.0	1.9
Education	0.8	0.6	2.5	3.0	1.7	2.4
Health and social work	0.8	1.1	13.1	14.5	12.3	13.3
Hotels and restaurants	3.3	3.6	6.2	6.2	2.9	2.6
Other community, social, and personal services	3.0	2.6	2.9	3.1	-0.1	0.5
Total	63.8	70.1	75.9	79.5	12.0	9.4
Business sector						
Total	100.0	100.0	100.0	100.0	...	...

... not applicable

Notes: Figures have been rounded and may not add up to total values. Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Table 15

Distribution of hours worked by industry for small firms in the business sectors of Canada and the United States, 2002 and 2008

	Proportion to total				Difference (United States less Canada)	
	Canada		United States			
	2002	2008	2002	2008	2002	2008
	percent					
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	5.4	4.4	4.9	4.4	-0.5	0.0
Electricity, gas, and water supply	0.1	0.1	0.2	0.2	0.1	0.1
Construction	10.6	13.4	12.5	12.8	1.9	-0.7
Mines, oil and gas	0.9	1.2	0.4	0.6	-0.5	-0.6
Manufacturing	13.1	11.4	11.0	10.1	-2.1	-1.4
Total	30.1	30.5	29.0	28.0	-1.1	-2.5
Services industries						
Wholesale and retail trade	19.6	17.7	15.6	14.3	-4.0	-3.4
Transport, storage, and communication	7.7	6.9	4.4	3.9	-3.3	-3.0
Financial intermediation	1.8	2.0	2.8	3.0	1.0	1.0
Real estate, renting, and business activities	16.0	17.8	16.6	17.3	0.7	-0.4
Education	0.6	0.7	1.8	2.0	1.2	1.2
Health and social work	5.5	5.8	10.3	11.8	4.8	6.0
Hotels and restaurants	9.0	8.7	8.3	8.8	-0.7	0.0
Other community, social, and personal services	9.7	9.8	11.2	10.9	1.5	1.1
Total	69.9	69.5	71.0	72.0	1.1	2.5
Business sector						
Total	100.0	100.0	100.0	100.0	...	...

... not applicable

Notes: Figures have been rounded and may not add up to total values. Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

4 Conclusion

This paper presents estimates of the contribution of small and large firms to Canadian business-sector GDP and hours worked that are methodologically comparable to those produced for the United States.

It investigates whether the Canadian economy exhibits a greater proportion of smaller firms (relative to large firms) than the U.S. economy. The relative importance of small firms in terms of GDP and hours worked is larger in Canada than in the United States. In 2008, Canadian small firms generated 53.4% of business-sector GDP and 70.8% of hours worked. U.S. small firms generated 46.1% of business-sector GDP and 55.6% of hours worked. The small-firm share of both GDP and hours worked declined in Canada and the United States from 2002 to 2008.

The United States had eight industries, whose large-firm GDP share was more than 50% where as Canada had five in 2008. The three industries where the large firm GDP share was more than 50% in the United States but not in Canada were health, education, and wholesale and retail.

The most notable increase in the share of GDP in large firms in Canada, between 2002 and 2008, occurred in mines, oil and gas. The relative importance of this industry (measured as a percentage of total business-sector GDP) was about seven times larger in Canada than in the United States. These trends were not observed for hours worked.

The relative importance (measured as a percentage of total business-sector GDP) of small firms in the construction industry was almost twice as large in Canada as in the United States. For both large and small firms, the relative importance of financial intermediation was substantially larger in the United States than in Canada.

The study also found that, from 2002 to 2008, business-sector nominal GDP and hours worked grew faster in Canada relative to the United States for both small and large firms. From 2002 to 2008, growth of business-sector nominal GDP was 4.9% among Canadian small firms and 7.5% among Canadian large firms and 4.3% among U.S. small firms and 5.5% among U.S. large firms. Furthermore, from 2002 to 2008, business-sector hours worked stood at 1.0% for Canadian small firms and 2.8% for Canadian large firms and at 0.4% for U.S. small firms and 1.2% for U.S. large firms.

Two separate metrics are used in this paper to measure the importance of small firms in the two North American economies. These are output (as GDP) and employment (as hours worked). Both metrics indicate that small firms are more important in Canada. Furthermore, the impression of a Canadian economy dominated by small firms is much more striking when employment, rather than output, is used. This difference indicates that the relative productivity of small firms vis-à-vis large firms is lower in Canada than in the United States. The related paper *The Canada–United States Labour Productivity Gap Across Firm Size Classes* (Baldwin, Leung and Rispoli, 2014) will examine these differences in more detail and look at the extent to which the Canada–U.S. labour productivity gap is due to the differences between Canada and the United States in industry structure, the greater importance of small firms in Canada, and the gap in the productivity of small and large firms between the two countries.

5 Appendix

5.1 Various employment indicators

Table 16

Share of employment in large businesses using the Longitudinal Employment Analysis Program

	Total economy	Business sector	Business sector relative to total economy
		percent	
1983	52	42	81
1984	51	41	81
1985	50	41	81
1986	50	41	82
1987	49	41	83
1988	49	40	81
1989	48	40	83
1990	49	39	79
1991	48	39	82
1992	48	37	76
1993	47	37	78
1994	47	36	77
1995	47	36	77
1996	47	37	79
1997	46	37	80
1998	46	37	80
1999	46	37	80
2000	47	38	81
2001	47	38	80
2002	47	38	80
2003	48	38	80
2004	48	38	80
2005	48	38	79
2006	48	38	79
2007	48	38	79
2008	48	38	79
2009	48	37	77
2010	47	37	78
2011	46	36	78

Notes: The estimates for the business sector do not include education or health. Since the 2002 values for forestry and management of companies were not reported in the survey, the 2003 values were used in their place. These are only for paid workers. Figures have been rounded and may not add up to total values.

Source: Statistics Canada, 2011 vintage of the Longitudinal Employment Analysis Program.

Table 17

Canadian large-firm share of employment using the Survey of Employment, Payrolls and Hours

	Employment								
	2002	2003	2004	2005	2006	2007	2008	2009	2010
	thousands of hours worked								
All businesses									
Total economy	13,075,898	13,304,442	13,462,657	13,692,324	14,071,937	14,397,915	14,668,656	14,357,849	14,414,170
Less									
Educational services	1,013,250	1,022,668	1,043,090	1,060,855	1,084,949	1,111,213	1,136,770	1,153,367	1,163,503
Health care and social assistance	1,346,124	1,382,748	1,398,169	1,426,280	1,467,665	1,499,889	1,541,812	1,598,349	1,632,573
Public administration	863,330	901,770	907,318	931,479	955,100	970,498	1,017,578	1,039,181	1,050,939
Add									
Private-sector education	63,673	67,467	66,194	72,317	71,715	73,754	73,754	73,754	73,754
Private-sector health	573,065	587,081	594,303	619,508	645,205	659,677	659,677	659,677	659,677
Business sector	10,489,932	10,651,804	10,774,577	10,965,535	11,281,143	11,549,746	11,705,927	11,300,383	11,300,586
Large firms									
Total economy	5,757,121	5,894,266	6,009,036	6,161,382	6,363,532	6,528,172	6,688,041	6,608,465	6,636,001
Less									
Educational services	843,510	846,424	868,836	884,844	912,044	934,057	955,240	971,186	980,311
Health care and social assistance	668,055	696,107	709,601	739,078	767,460	790,677	815,928	849,474	872,198
Public administration	702,947	740,895	742,774	764,970	787,455	795,447	833,030	851,086	860,080
Add									
Private-sector education	17,803	17,803	20,041	11,761	11,871	26,872	16,292	12,736	12,736
Private-sector health	30,840	30,840	47,845	46,644	46,180	48,445	48,348	45,494	45,494
Business sector	3,591,252	3,659,483	3,755,711	3,830,896	3,954,624	4,083,308	4,148,483	3,994,950	3,981,643
	percent								
Large-firm share of employment									
Total economy	44.0	44.3	44.6	45.0	45.2	45.3	45.6	46.0	46.0
Business sector	34.2	34.4	34.9	34.9	35.1	35.4	35.4	35.4	35.2

Notes: Employment for forestry and management of companies were not reported on CANSIM in 2002. For continuity and to obtain totals, the 2003 values were used instead. These data include only paid workers. Figures have been rounded and may not add up to total values. Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations for private education and health.

Source: Statistics Canada, Survey of Employment, Payrolls and Hours.

5.2 Hours worked by industry and by firm size in Canada and the United States

Table 18

Large firms' hours worked by industry in Canada and the United States, 2002 and 2008

	Canada			United States		
	2002	2008	Average annual growth, 2002 to 2008	2002	2008	Average annual growth, 2002 to 2008
	thousands of hours worked		percent	thousands of hours worked		percent
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	13,693	6,970	-10.6	164,755	129,868	-3.9
Electricity, gas, and water supply	144,682	170,067	2.7	1,135,623	1,117,855	-0.3
Construction	157,689	258,863	8.6	2,229,372	2,547,929	2.3
Mines, oil and gas	188,600	299,468	8.0	610,122	892,647	6.5
Manufacturing	1,724,594	1,436,975	-3.0	18,130,661	15,577,609	-2.5
Total	2,229,259	2,172,344	-0.4	22,270,534	20,265,907	-1.6
Services industries						
Wholesale and retail trade	1,293,302	1,719,615	4.9	16,252,631	17,893,454	1.6
Transport, storage, and communication	779,602	1,020,569	4.6	7,835,679	8,253,885	0.9
Financial intermediation	535,741	576,638	1.2	7,716,757	7,736,622	0.0
Real estate, renting, and business activities	841,282	1,200,746	6.1	15,381,001	18,219,700	2.9
Education	50,227	42,943	-2.6	2,337,698	2,921,801	3.8
Health and social work	50,436	83,626	8.8	12,136,813	14,319,889	2.8
Hotels and restaurants	200,880	264,636	4.7	5,702,886	6,166,971	1.3
Other community, social, and personal services	182,353	192,457	0.9	2,667,085	3,103,467	2.6
Total	3,933,823	5,101,230	4.4	70,030,550	78,615,788	1.9
Business sector						
Total	6,163,082	7,273,574	2.8	92,301,084	98,881,695	1.2

Notes: Figures have been rounded and may not add up to total values. Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Table 19
Small firms' hours worked by industry in Canada and the United States, 2002 and 2008

	Canada			United States		
	2002	2008	Average annual growth, 2002 to 2008	2002	2008	Average annual growth, 2002 to 2008
	thousands of hours worked		percent	thousands of hours worked		percent
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	896,151	771,085	-2.5	5,947,083	5,451,315	-1.4
Electricity, gas, and water supply	20,861	17,514	-2.9	226,452	218,767	-0.6
Construction	1,759,341	2,372,541	5.1	15,171,655	15,869,038	0.8
Mines, oil and gas	141,671	208,110	6.6	455,071	726,941	8.1
Manufacturing	2,186,501	2,019,993	-1.3	13,348,969	12,471,082	-1.1
Total	5,004,524	5,389,243	1.2	35,149,230	34,737,143	-0.2
Services industries						
Wholesale and retail trade	3,259,718	3,128,451	-0.7	18,933,907	17,788,043	-1.0
Transport, storage, and communication	1,274,548	1,226,390	-0.6	5,316,849	4,899,666	-1.4
Financial intermediation	307,561	348,861	2.1	3,397,778	3,678,092	1.3
Real estate, renting, and business activities	2,656,455	3,135,597	2.8	20,188,182	21,494,045	1.1
Education	99,074	128,873	4.5	2,235,037	2,449,115	1.5
Health and social work	919,264	1,023,995	1.8	12,484,822	14,644,899	2.7
Hotels and restaurants	1,495,419	1,536,599	0.5	10,014,974	10,857,080	1.4
Other community, social, and personal services	1,616,339	1,729,094	1.1	13,610,815	13,496,751	-0.1
Total	11,628,378	12,257,861	0.9	86,182,364	89,307,691	0.6
Business sector						
Total	16,632,902	17,647,104	1.0	121,331,594	124,044,834	0.4

Notes: Figures have been rounded and may not add up to total values. Industries are at the *S*-level aggregation based on the North American Industry Classification System. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

5.3 Proportion of total business-sector hours worked by firm size in Canada and the United States

Table 20

Business-sector hours worked by firm size, Canada and United States, 2002 to 2008

	Hours worked						
	2002	2003	2004	2005	2006	2007	2008
	thousands of hours worked						
Canada							
Business size class							
Small	16,632,902	16,616,681	17,165,465	17,193,042	17,286,693	17,729,940	17,647,104
Large	6,163,082	6,493,751	6,623,629	6,739,879	6,988,372	7,052,807	7,273,574
All	22,795,984	23,110,432	23,789,094	23,932,922	24,275,066	24,782,748	24,920,678
	percent						
Share of total business sector							
Small	73.0	71.9	72.2	71.8	71.2	71.5	70.8
Large	27.0	28.1	27.8	28.2	28.8	28.5	29.2
	thousands of hours worked						
United States							
Business size class							
Small	121,331,594	120,565,278	122,314,059	123,361,616	125,298,078	126,536,677	124,044,834
Large	92,301,084	90,850,166	91,599,169	93,639,648	97,172,509	99,430,007	98,881,695
All	213,632,677	211,415,444	213,913,229	217,001,264	222,470,587	225,966,684	222,926,530
	percent						
Share of total business sector							
Small	56.8	57.0	57.2	56.8	56.3	56.0	55.6
Large	43.2	43.0	42.8	43.2	43.7	44.0	44.4

Notes: Figures have been rounded and may not add up to total values. Authors' own calculations using the sources below.
Sources: Statistics Canada productivity program; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Table 21
Average annual growth of business-sector hours worked by firm size, Canada and United States, 2002 to 2008

	Average annual growth, 2002 to 2008
	percent
Canada	
Business size class	
Small	1.0
Large	2.8
All	1.5
United States	
Business size class	
Small	0.4
Large	1.2
All	0.7

Note: Authors' own calculations using the sources below.
Sources: Statistics Canada Productivity Program; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

5.4 Small and large firms' business-sector gross domestic product and hours worked after removing health and education

Table 22

Nominal gross domestic product by size of business in the business sectors of Canada and the United States, 2002 to 2008

	2002	2003	2004	2005	2006	2007	2008	Average annual growth, 2002
	millions of Canadian dollars							percent
Canada								
Small firms	443,247	453,288	485,230	510,689	535,851	565,814	585,577	4.8
Large firms	352,356	387,350	416,033	454,346	482,996	508,631	543,592	7.5
All firms	795,603	840,637	901,262	965,035	1,018,847	1,074,445	1,129,169	6.0
	millions of U.S. dollars							percent
United States								
Small firms	3,549,608	3,696,711	3,948,143	4,095,952	4,312,876	4,524,754	4,530,313	4.1
Large firms	3,896,522	4,087,809	4,331,238	4,746,101	5,069,197	5,280,426	5,293,307	5.2
All firms	7,446,131	7,784,520	8,279,381	8,842,053	9,382,073	9,805,180	9,823,621	4.7

Notes: Education and health are removed from the business sector. Figures have been rounded and may not add up to total values. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Table 23

Share of nominal gross domestic product by size of business in the business sectors of Canada and the United States, 2002 to 2008

	2002	2003	2004	2005	2006	2007	2008	Average annual growth, 2002 to 2008
					percent			
Canada								
Small firms	55.7	53.9	53.8	52.9	52.6	52.7	51.9	-1.2
Large firms	44.3	46.1	46.2	47.1	47.4	47.3	48.1	1.4
All firms	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0
United States								
Small firms	47.7	47.5	47.7	46.3	46.0	46.1	46.1	-0.6
Large firms	52.3	52.5	52.3	53.7	54.0	53.9	53.9	0.5
All firms	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0

Notes: Education and health are removed from the business sector. Figures have been rounded and may not add up to total values. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Table 24

Hours worked by size of business in the business sectors of Canada and the United States, 2002 to 2008

	2002	2003	2004	2005	2006	2007	2008	Average annual growth, 2002 to 2008
	thousands of hours worked							percent
Canada								
Small firms	15,614,563	15,595,632	16,100,123	16,125,713	16,220,897	16,598,793	16,494,236	0.9
Large firms	6,062,419	6,373,758	6,518,825	6,635,356	6,850,340	6,924,038	7,147,005	2.8
All firms	21,676,982	21,969,389	22,618,948	22,761,070	23,071,237	23,522,832	23,641,241	1.5
United States								
Small firms	106,611,734	105,431,105	106,446,774	107,188,719	109,199,337	109,507,135	106,950,820	0.1
Large firms	77,826,573	75,932,272	76,698,103	78,157,475	80,919,482	82,067,002	81,640,005	0.8
All firms	184,438,307	181,363,377	183,144,877	185,346,194	190,118,819	191,574,137	188,590,826	0.4

Notes: Education and health are removed from the business sector. Figures have been rounded and may not add up to total values. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Table 25

Share of hours worked by size of business in the business sectors of Canada and the United States, 2002 to 2008

	2002	2003	2004	2005	2006	2007	2008	Average annual growth, 2002 to 2008
					percent			
Canada								
Small firms	72.0	71.0	71.2	70.8	70.3	70.6	69.8	-0.5
Large firms	28.0	29.0	28.8	29.2	29.7	29.4	30.2	1.3
All firms	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0
United States								
Small firms	57.8	58.1	58.1	57.8	57.4	57.2	56.7	-0.3
Large firms	42.2	41.9	41.9	42.2	42.6	42.8	43.3	0.4
All firms	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0

Notes: Education and health are removed from the business sector. Figures have been rounded and may not add up to total values. Authors' own calculations using the sources below.
Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

5.5 Small and large firms' share of business-sector gross domestic product and hours worked after removing health and education

Table 26

Share of nominal gross domestic product for large firms in the business sectors of Canada and the United States, 2002 and 2008

	Share of large firms			
	Canada		United States	
	2002	2008	2002	2008
	percent			
Goods-producing industries				
Agriculture, hunting, forestry, and fishing	2.2	0.9	5.5	3.1
Electricity, gas, and water supply	82.7	88.1	85.2	81.1
Construction	12.6	15.3	16.5	19.1
Mines, oil and gas	72.1	84.3	68.6	65.2
Manufacturing	62.4	56.6	71.0	70.2
Total	53.2	55.4	57.6	56.8
Services industries				
Wholesale and retail trade	33.4	39.9	49.7	53.9
Transport, storage, and communication	63.2	69.4	75.9	75.9
Financial intermediation	71.7	72.2	70.7	71.6
Real estate, renting, and business activities	23.3	29.6	38.8	42.8
Hotels and restaurants	21.5	24.0	44.9	48.8
Other community, social, and personal services	16.6	17.1	18.5	21.0
Total	37.5	42.4	50.0	52.6
Business sector				
Total	44.3	48.1	52.3	53.9

Notes: Education and health are removed from the business sector. Authors' own calculations using the sources below.
Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Table 27

Share of nominal gross domestic product for small firms in the business sectors of Canada and the United States, 2002 and 2008

	Share of small firms			
	Canada		United States	
	2002	2008	2002	2008
	percent			
Goods-producing industries				
Agriculture, hunting, forestry, and fishing	97.8	99.1	94.5	96.9
Electricity, gas, and water supply	17.3	11.9	14.8	18.9
Construction	87.4	84.7	83.5	80.9
Mines, oil and gas	27.9	15.7	31.4	34.8
Manufacturing	37.6	43.4	29.0	29.8
Total	46.8	44.6	42.4	43.2
Services industries				
Wholesale and retail trade	66.6	60.1	50.3	46.1
Transport, storage, and communication	36.8	30.6	24.1	24.1
Financial intermediation	28.3	27.8	29.3	28.4
Real estate, renting, and business activities	76.7	70.4	61.2	57.2
Hotels and restaurants	78.5	76.0	55.1	51.2
Other community, social, and personal services	83.4	82.9	81.5	79.0
Total	62.5	57.6	50.0	47.4
Business sector				
Total	55.7	51.9	47.7	46.1

Notes: Education and health are removed from the business sector. Authors' own calculations using the sources below.
Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Table 28

Share of hours worked for large firms in the business sectors of Canada and the United States, 2002 and 2008

	Share of large firms			
	Canada		United States	
	2002	2008	2002	2008
	percent			
Goods-producing industries				
Agriculture, hunting, forestry, and fishing	1.5	0.9	2.7	2.3
Electricity, gas, and water supply	87.4	90.7	83.4	83.6
Construction	8.2	9.8	12.8	13.8
Mines, oil and gas	57.1	59.0	57.3	55.1
Manufacturing	44.1	41.6	57.6	55.5
Total	30.8	28.7	38.8	36.8
Service industries				
Wholesale and retail trade	28.4	35.5	46.2	50.1
Transport, storage, and communication	38.0	45.4	59.6	62.8
Financial intermediation	63.5	62.3	69.4	67.8
Real estate, renting, and business activities	24.1	27.7	43.2	45.9
Hotels and restaurants	11.8	14.7	36.3	36.2
Other community, social, and personal services	10.1	10.0	16.4	18.7
Total	26.5	30.9	43.7	45.9
Business sector				
Total	28.0	30.2	42.2	43.3

Notes: Education and health are removed from the business sector. Authors' own calculations using the sources below.
Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Table 29
Share of hours worked for small firms in the business sectors of Canada and the United States, 2002 and 2008

	Share of small firms			
	Canada		United States	
	2002	2008	2002	2008
	percent			
Goods-producing industries				
Agriculture, hunting, forestry, and fishing	98.5	99.1	97.3	97.7
Electricity, gas, and water supply	12.6	9.3	16.6	16.4
Construction	91.8	90.2	87.2	86.2
Mines, oil and gas	42.9	41.0	42.7	44.9
Manufacturing	55.9	58.4	42.4	44.5
Total	69.2	71.3	61.2	63.2
Services industries				
Wholesale and retail trade	71.6	64.5	53.8	49.9
Transport, storage, and communication	62.0	54.6	40.4	37.2
Financial intermediation	36.5	37.7	30.6	32.2
Real estate, renting, and business activities	75.9	72.3	56.8	54.1
Hotels and restaurants	88.2	85.3	63.7	63.8
Other community, social, and personal services	89.9	90.0	83.6	81.3
Total	73.5	69.1	56.3	54.1
Business sector				
Total	72.0	69.8	57.8	56.7

Notes: Education and health are removed from the business sector. Authors' own calculations using the sources below.
Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

5.6 Proportion of total business-sector (nominal) gross domestic product for large firms by industry in the Canadian and U.S. business sectors after removing health and education

Table 30

Proportion of total business-sector (nominal) gross domestic product for large firms by industry in the business sectors of Canada and the United States, 2002 and 2008

	Proportion to total				Difference (United States less Canada)	
	Canada		United States			
	2002	2008	2002	2008	2002	2008
	percent					
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	0.1	0.0	0.1	0.1	0.0	0.0
Electricity, gas, and water supply	6.4	5.6	4.6	4.6	-1.8	-1.0
Construction	2.1	3.0	2.1	2.2	0.0	-0.8
Mines, oil and gas	10.9	24.0	1.9	3.9	-9.0	-20.1
Manufacturing	32.3	18.1	24.7	21.6	-7.7	3.5
Total	51.9	50.8	33.5	32.4	-18.4	-18.4
Services industries						
Wholesale and retail trade	10.8	11.9	17.2	17.0	6.4	5.2
Transport, storage, and communication	15.1	14.3	11.5	11.3	-3.6	-3.0
Financial intermediation	9.3	8.6	15.7	14.1	6.4	5.5
Real estate, renting, and business activities	9.7	11.4	16.8	19.6	7.1	8.1
Hotels and restaurants	1.5	1.4	3.6	3.7	2.0	2.3
Other community, social, and personal services	1.7	1.5	1.8	1.9	0.1	0.3
Total	48.1	49.2	66.5	67.6	18.4	18.4
Business sector						
Total	100.0	100.0	100.0	100.0	...	...

... not applicable

Notes: Education and health are removed from the business sector. Figures have been rounded and may not add up to total values. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Table 31

Proportion of total business-sector (nominal) gross domestic product for small firms by industry in the business sectors of Canada and the United States, 2002 and 2008

	Proportion to total				Difference (United States less Canada)	
	Canada		United States			
	2002	2008	2002	2008	2002	2008
	percent					
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	5.0	4.7	2.5	3.4	-2.5	-1.3
Electricity, gas, and water supply	1.1	0.7	0.9	1.2	-0.2	0.5
Construction	11.4	15.6	11.6	11.0	0.2	-4.6
Mines, oil and gas	3.4	4.1	1.0	2.5	-2.4	-1.7
Manufacturing	15.5	12.9	11.1	10.7	-4.4	-2.1
Total	36.3	38.0	27.1	28.8	-9.3	-9.2
Services industries						
Wholesale and retail trade	17.1	16.6	19.1	17.0	2.0	0.4
Transport, storage, and communication	7.0	5.9	4.0	4.2	-3.0	-1.7
Financial intermediation	2.9	3.1	7.1	6.5	4.2	3.4
Real estate, renting, and business activities	25.4	25.2	29.0	30.6	3.6	5.4
Hotels and restaurants	4.5	4.3	4.8	4.6	0.3	0.3
Other community, social, and personal services	6.8	7.0	8.9	8.3	2.1	1.3
Total	63.7	62.0	72.9	71.2	9.3	9.2
Business sector						
Total	100.0	100.0	100.0	100.0	...	...

... not applicable

Notes: Education and health are removed from the business sector. Figures have been rounded and may not add up to total values. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Table 32

Proportion of total business-sector hours worked for large firms by industry in the business sectors of Canada and the United States, 2002 and 2008

	Proportion to total				Difference (United States less Canada)	
	Canada		United States			
	2002	2008	2002	2008	2002	2008
	percent					
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	0.2	0.1	0.2	0.2	0.0	0.1
Electricity, gas, and water supply	2.4	2.4	1.5	1.4	-0.9	-1.0
Construction	2.6	3.6	2.9	3.1	0.3	-0.5
Mines, oil and gas	3.1	4.2	0.8	1.1	-2.3	-3.1
Manufacturing	28.4	20.1	23.3	19.1	-5.2	-1.0
Total	36.8	30.4	28.6	24.8	-8.2	-5.6
Services industries						
Wholesale and retail trade	21.3	24.1	20.9	21.9	-0.4	-2.1
Transport, storage, and communication	12.9	14.3	10.1	10.1	-2.8	-4.2
Financial intermediation	8.8	8.1	9.9	9.5	1.1	1.4
Real estate, renting, and business activities	13.9	16.8	19.8	22.3	5.9	5.5
Hotels and restaurants	3.3	3.7	7.3	7.6	4.0	3.9
Other community, social, and personal services	3.0	2.7	3.4	3.8	0.4	1.1
Total	63.2	69.6	71.4	75.2	8.2	5.6
Business sector						
Total	100.0	100.0	100.0	100.0	...	...

... not applicable

Notes: Education and health are removed from the business sector. Figures have been rounded and may not add up to total values. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

Table 33

Proportion of total business-sector hours worked for small firms by industry in the business sectors of Canada and the United States, 2002 and 2008

	Proportion to total				Difference (United States less Canada)	
	Canada		United States			
	2002	2008	2002	2008	2002	2008
	percent					
Goods-producing industries						
Agriculture, hunting, forestry, and fishing	5.7	4.7	5.6	5.1	-0.2	0.4
Electricity, gas, and water supply	0.1	0.1	0.2	0.2	0.1	0.1
Construction	11.3	14.4	14.2	14.8	3.0	0.5
Mines, oil and gas	0.9	1.3	0.4	0.7	-0.5	-0.6
Manufacturing	14.0	12.2	12.5	11.7	-1.5	-0.6
Total	32.1	32.7	33.0	32.5	0.9	-0.2
Services industries						
Wholesale and retail trade	20.9	19.0	17.8	16.6	-3.1	-2.3
Transport, storage, and communication	8.2	7.4	5.0	4.6	-3.2	-2.9
Financial intermediation	2.0	2.1	3.2	3.4	1.2	1.3
Real estate, renting, and business activities	17.0	19.0	18.9	20.1	1.9	1.1
Hotels and restaurants	9.6	9.3	9.4	10.2	-0.2	0.8
Other community, social, and personal services	10.4	10.5	12.8	12.6	2.4	2.1
Total	67.9	67.3	67.0	67.5	-0.9	0.2
Business sector						
Total	100.0	100.0	100.0	100.0	...	...

... not applicable

Notes: Education and health are removed from the business sector. Figures have been rounded and may not add up to total values. Authors' own calculations using the sources below.

Sources: Statistics Canada; Bureau of Economic Analysis; and U.S. Census Bureau (Statistics of U.S. Businesses).

References

Baldwin, J.R., and P. Gorecki. 1986. *The Role of Scale in Canada/U.S. Productivity Differences in the Manufacturing Sector: 1970-1979*. Vol. 6 of Collected Research Studies. Research Program of the Royal Commission on the Economic Union and Development Prospects for Canada, Economic Council of Canada. Toronto: University of Toronto Press.

Baldwin, J.R., D. Leung, and L. Rispoli. 2011. *Labour Productivity of Unincorporated Sole Proprietorships and Partnerships: Impact on the Canada-United States Productivity Gap.* Economic Analysis Research Paper Series, no. 71. Statistics Canada Catalogue No. 11F0027M. Ottawa: Statistics Canada.

Baldwin, J.R., D. Leung, and L. Rispoli, 2014. *The Canada–U.S. Labour Producitivity Gap Across Firm Size Classes.* Canadian Productivity Review, no. 033. Statistics Canada. Catalogue no. 15-206-X. Ottawa: Statistics Canada.

Baldwin, J.R., J.P. Maynard, M. Tanguay, F. Wong, and B. Yan. 2005. *A Comparison of Canadian and U.S. Productivity Levels: An Exploration of Measurement Issues*. Economic Analysis Research Paper Series, no. 28. Statistics Canada Catalogue No. 11F0027M. Ottawa: Statistics Canada.

Davis. S.J., and M. Henrikson 1999. "Explaining National Differences in the Size and Industry Distribution of Employment." *Small Business Economics* 12 (1): 59–83.

Kanagarajah, S. 2005. *Business Dynamics in Canada, 2001*. Statistics Canada Catalogue no. 61-534-X1E. Ottawa: Statistics Canada.

Kobe, K. 2007. *The Small Business Share of GDP, 1998-2004*. Economic Consulting Services, LLC UC Berkeley. Washington, D.C.: Office of Advocacy, United States Small Business Administration. Contract number SBAHQ-05-M-0413.

Kobe, K. 2012. *Small Business GDP: Update 2002-2010*. Economic Consulting Services, LLC UC Berkeley. Washington, D.C.: Office of Advocacy, United States Small Business Administration. Contract number SBAHQ-10-M-0258.

Kumar, K.B., R.G. Rajan, and L. Zingales. 1999. *What Determines Firm Size?* NBER Working Paper Series, no. 7208. Cambridge: Massachusetts. National Bureau of Economic Research.

Leung, D., C. Meh, and Y. Terajima. 2008. "Productivity in Canada: Does Firm Size Matter?" *Bank of Canada Review*. Autumn. 5–14.

Leung, D., and L. Rispoli. 2011. *The Contribution of Small and Medium-Sized Business to Gross Domestic Product: A Canadian–United States Comparison*. Economic Analysis Research Paper Series, no. 70. Statistics Canada Catalogue no. 11F0027M. Ottawa: Statistics Canada.

Leung, D., and L. Rispoli. 2012. *Small, Medium-sized, and Large Businesses in the Canadian Economy: Measuring Their Contribution to Gross Domestic Product from 2001 to 2008.* Economic Analysis Research Paper Series, no. 82. Statistics Canada Catalogue no. 11F0027M. Ottawa: Statistics Canada.

Leung, D., Rispoli, L., and R. Gibson 2011. *Small, Medium-Sized and Large Businesses in the Canadian Economy: Measuring Their Contribution to Gross Domestic Product in 2005.* Economic Analysis Research Paper Series, no. 69. Statistics Canada Catalogue no. 11F0027M. Ottawa: Statistics Canada.

Morissette, R. 1993. "Canadian Jobs and Firm Size: Do Smaller Firms Pay Less?" *Canadian Journal of Economics* 26 (1): 159–174.

Rao, S., Tang, J., and Wang, W. 2004. "Measuring the Canada-U.S. Productivity Gap: Industry Dimensions." *International Productivity Monitor* (9): 3–14.

Rispoli, L. 2009. *Measuring the Contribution of the Unincorporated Sector in the Canadian Economy, 1997 to 2002.* Insights on the Canadian Economy, no. 23. Statistics Canada Catalogue no. 11-624-M. Ottawa: Statistics Canada.